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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,163	06/27/2003	Christophe Magnin	2058.ELO	8268

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EXAMINER	
YAO, SAMCHUAN CUA	
ART UNIT	**PAPER NUMBER**
1733	

DATE MAILED: 05/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/608,163	MAGNIN ET AL.	
	Examiner	Art Unit	
	Sam Chuan C. Yao	1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 April 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 13-14 and 19-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As for claim 13, while this limitation is identical to original claim 3, nonetheless this claim in combination with newly added independent claim 12 introduces New Matter into the original disclosure. There is no sufficient support in the original disclosure for using a "polymer comprises cationic functionality", which is a *"synthetic polymer contains functional monomers and/or has a glass temperature Tg of between -60 and +40 °C"*, and can be *"activated by heat, the heat being up to 120 °C"*. In fact, a polymer which comprises cationic functionality appears to be a water-activated material (specification; page 7 lines 18-25), rather than a heat-activated material.

As for claim 14, while this limitation is identical to original claim 4, nonetheless this claim in combination with newly added independent claim 12 introduces New Matter into the original disclosure. There is no sufficient support in the original disclosure for bonding a paper substrate to (for example) a wood, leather, glass, cellulose, woven, non-woven, etc. Moreover, there is no sufficient support in the original disclosure for bonding a plastic to a wood, glass, leather, etc.

As for claim 19, while this limitation is identical to original claim 9, nonetheless this claim in combination with newly added independent claim 12 introduces New Matter into the original disclosure. There is no sufficient support in the original disclosure for bonding a paper substrate and a metallic substrate.

As for claim 20, while this limitation is identical to original claim 10, nonetheless this claim in combination with newly added independent claim 12 introduces New Matter into the original disclosure. There is no sufficient support in the original disclosure for using a powder adhesive, which can be activated by heat (claim 12) and also activatable with water mist or radiation.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 12-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 12 is indefinite, because it is unclear whether this claim positively requires heating a powder adhesive to activate the adhesive. For the purpose of examining this claim (in light of claim 20 and the application of a term "when" in this claim), this claim does not require heat-activating the powder adhesive.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 12, 14-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akasaki et al (US 4,859,266) in view of Shirayanagi et al (US 5,306,545).

With respect to claims 12,14, 16,18 and 20, Akasaki et al discloses a process for bonding a pair of fabrics. The process comprises providing a target non-conductive fabric (39); electrostatically applying a nylon (i.e. an amide functional group) powdered adhesive onto the fabric; overlaying a 2nd fabric onto the adhesive coated fabric; and then applying heat and pressure to the pair of fabrics to soften (i.e. activate) the powdered adhesive to bond the fabrics together; wherein the nylon powdered adhesive has a melting range (i.e. heat-activatable) of 115-125 °C (abstract; col. 1 line 64 to col. 2 line 59; col. 4 lines 2-68; col. 5 lines 17-39). Akasaki et al differs from claim 12 in that Akasaki et al does not teach using a paper or plastic substrate. However, it would have been obvious in the art to use a melt-blown (i.e. thermo**plastic**) non-woven web suggested by Shirayanagi et al in the process of Akasaki et al, because: a) Akasaki et al is silent on the type of material which is used for making a fabric; and, b) Shirayanagi et al, drawn to making a laminated non-woven web, teaches forming a melt-blown (i.e. thermoplastic) nonwoven web from an ethylene-alpha-olefin copolymer in order to form a fabric having an *"excellent elasticity ... exhibit excellent fitness to the curved portions ... excellent softness ..."* (abstract; figure 1). Note: since applicant fails to positively

require using a plastic film (and also fails to define the plastic to be a film in the specification), the plastic recited in claim 12 reasonably taken to read on thermoplastic non-woven web such as melt-blown nonwoven web taught by Shirayanagi et al.

With respect to claims 15 and 17, while Akasaki et al teaches applying and bonding a second fabric to a heat-activated thermoplastic powder adhesive coating on a 1st fabric (figure 5), Akasaki et al does not teach simultaneously depositing and heat-activating a thermoplastic powder adhesive or bonding an adhesive coated fabric to another fabric in a different manufacturing line. However, such would have been obvious in the art, because, absent any showing of unexpected benefit, a preference on whether to simultaneously or to sequentially deposit and activate thermoplastic powder for bonding a pair of fabrics or to bond an adhesive coated fabric to another fabric in the same manufacturing or not are taken to be well within the purview of choice in the art. There is none, but only the expected result of adhesively bonding a pair of fabrics together by heat-softening a thermoplastic powder would have been achieved.

6. Claims 12 and 14-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rinchart et al (US 5,827,608) in view of either (Hefele (US 4,080,347) or McConnell et al (US 4,727,107).

With respect to claims 12, 16 and 20, Rinchart et al discloses a process for making a composite comprising a hot-melt adhesive coated film. The process comprises electrostatically applying a thermoplastic powder onto a thermoplastic film, heat-

pressing the thermoplastic powder coated film to soften the thermoplastic powder and form a continuous thermoplastic coating layer; wherein the thermoplastic powder can be anyone of polyamide, polyester, etc. (abstract, col. 1 lines 7-10; col. 2 lines 9-43; col. 4 line 31 to col. 5 line 19; col. 6 lines 8-60; claims 1 and 10; figures 1-2 and 4). While Rinchart et al does not explicitly disclose adhering a finished composite comprising a non-metallic substrate and a thermoplastic layer onto another substrate, the teachings of Rinechart et al as a whole would have suggested to one in the art that the finished composite is adhered onto another substrate by heat-activating the thermoplastic layer, because Rinechart et al is directed to making a composite for use as protective layer for an *"outdoor durable sign"*.

While Rinchart et al teaches using a polyamide or polyester powder, Rinchart is silent on the heat-activation (i.e. softening/melting temperature range) of the polyamide or polyester powder. However, polyamide hot-melting powdered adhesive which has a melting temperature range of 55-95 °C is well known in the art as exemplified in the teachings of Hefele (abstract; col. 2 lines 1-25). Absent any showing of unexpected result, since: a) Rinechart is virtually open to using any types of thermoplastic adhesive as evidence from the following passages: *"Powders suitable for powder coating ... one or more thermoplastic polymers chosen to give desirable properties ... Nonlimiting examples ... polyamide, polyester, ..."* (col. 6 lines 35-53); and b) it is well within the purview of choice in the art to choose from among known effective polyamide hot-melting powdered adhesives in the art, it would have been obvious in the art to use a polyamide powder suggested by Hefele

in the process of Rinechart et al. An incentive for one in the art to use a polyamide adhesive taught by Hefele would have simply been to obtain the self-evident advantage of providing an hot-melting adhesive with a low heat-activation (i.e. softening/melting) temperature so that less energy is required to heat-activate the adhesive on the composite as it being used to provide a protective layer onto an outdoor sign/indicia. It directly follows that, since a polyamide powdered adhesive suggested by Hefele has melt-range of 55-95 °C, a thermoplastic powder with a heat-activation temperature range of 55-95 °C would have been obvious in the art. **Alternatively**, it would have been obvious in the art, motivated by the desire to provide fire-retardant characteristic to a protective composite of Rinechart, to use a polyester hot-melt particulate adhesive suggested by McConnell et al, because McMcConnell et al, drawn to a particulate adhesive of a type (i.e. polyester) suggested by Rinechart, discloses a hot-melt modified polyester particulate adhesive having a flame retardant which is *"safe and nontoxic"* (col. 1 line 8 to col. 2 line 34). It directly follows that, since the polyester in the particulate adhesive of McMcConnell has a melting range of 80-180 °C, a thermoplastic powder with a heat-activation temperature range of 80-120 °C would have been obvious in the art. With respect to claims 14, 18-19, an outdoor sign/indicia which is made of metal, plastic or wood is notoriously well known in the art. It would have been obvious in the art to adhere a heat-activated thermoplastic layer of a composite having a graphic/marking substrate layer onto a metallic or non-metallic outdoor post as such

is conventional in the art. None but only the expected result of providing a protective film onto an outdoor sign would have been achieved.

With respect to claims 15 and 17, Rinechart does not teach simultaneously depositing and heat-activating a thermoplastic powder adhesive or bonding an adhesive coated fabric to another fabric in a different manufacturing line. However, such would have been obvious in the art, because, absent any showing of unexpected benefit, a preference on whether to simultaneously or to sequentially deposit and activate thermoplastic powder for bonding a pair of fabrics or to bond an adhesive coated fabric to another fabric in the same manufacturing or not are taken to be well within the purview of choice in the art. There is none, but only the expected result of adhesively bonding a pair of fabrics together by heat-softening a thermoplastic powder would have been achieved.

Response to Arguments

7. Applicant's arguments filed on 04-17-06 have been fully considered but they are not persuasive.

On page 4 full paragraph 4, Counsel argued that, *"[t]he powder adhesive is a Nylon copolymer of Nylon 6, 66 12 (column 5, line 24) and the operating conditions are 140 to 160 °C (column 5, lines 33-34).".* At the outset, independent claim 12 does not require positively heating the *"powder adhesive formulation"* up to a temperature range of 120 °C. Rather, independent claim 12 only requires the powder adhesive to be heat-activatable at a temperature range of up to 120 °C. For this reason, this limitation in claim 12 fails to define over Akasaki et al since the nylon powdered

adhesive of Akasaki et al has a melting temperature range of 115-125 °C (i.e. heat-activatable at a temperature range of 115-120 °C). As for Counsel's argument regarding the glass transition temperatures of Nylons being above 40 °C, as correctly noted by Counsel however, claim 12 requires polymers containing *"functional monomers and/**or** have a glass transition temperature Tg between -60 and +40 °C"* (emphasis and bold face added). This limitation clearly reads on polymers, which comprise a Nylon. Moreover, in applicant's own specification, it discloses using polyamide (specification; page 4 lines 10-22). Accordingly, this type of polymer has a glass transition temperature Tg between -60 and +40 °C. Why is it that applicant's polyamide has the above glass transition range, but a nylon type polyamide does not have the above glass transition range? Since Applicant has failed to provide any example on what type of polyamide which has the above glass transition temperature, and since according to Counsel NYLON (a well known type of polyamide) does not have the above glass transition temperature, the original disclosure may have some enablement problem.

As for Counsel's arguments regarding Sprengling and Parker, such are moot since these references have been withdrawn.

As for Counsel's arguments regarding Maijala, while not conceding the merits of Counsel's argument, such are also moot, since this has been withdrawn in order to simplify the issue in this application.

On page 5 full paragraph 3, Counsel argued that an applied polymer comprising PMMA and fluoropolymer have a high glass transition temperature and do not

contain functional monomers. It is respectfully submitted that, Reinhart is NOT limited to using a blend of PMMA and fluoropolymer. Counsel's attention is directed to column 6 lines 36-53, where it is clearly disclosed that Reinhart is open to using virtually any types of thermoplastic materials and further teaches using polyester, polyamide, etc.. These types of thermoplastic materials are in fact similar, if not identical, to those disclosed in the specification on page 4 lines 10-26.

As for Counsel's arguments on page 5 last paragraph to page 6 regarding Akasaki in view of WO '275, while not conceding to Counsel's argument, such is moot since no attempt was made to make an art rejection on claim 13. The lack of a prior art rejection should not be construed as meaning that the claims would be patentable if corrected to overcome the 35 USC 112 rejection set forth above. No prior art rejection has been made since there is no sufficient support for using using a "polymer comprises cationic functionality" and also is a *"synthetic polymer contains functional monomers and/or has a glass temperature Tg of between -60 and +40 °C"*, and can also be *"activated by heat, the heat being up to 120 °C"*.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Chuan C. Yao whose telephone number is (571) 272-1224. The examiner can normally be reached on Monday-Friday with second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Richard Crispino can be reached on (571) 272-1171. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sam Chuan C. Yao
Primary Examiner
Art Unit 1733

Scy
05-22-06